execution: six needles were inserted, to cover the lesion with adequate safety margin to account for microscopic spread. Needles were planned and inserted according to the rules of the Paris System. 7. Plastic tube overinsertion: plastic tubes were overinserted into the hollow needles. Needles were then removed and the plastic tubes rested in place. 8. Evaluation of the implant: to assess if additional tubes are needed for adequate target coverage. 9. Fixation of the tubes with plastic buttons to the skin of the patient. 10. Under the supervision of the anesthesiologist, the patient goes to the CT-room under general anesthesia in order to facilitate the obtention of CT images to calculate the treatment plan. The patient then goes to the recovery room or ICU according to the anesthesiologist criteria. 11. Treatment plan is calculated by the medical physicist from CT images. The radiation oncologist prescribe the dose and accept the plan. 12. After QA procedures are cleared the patient starts treatment.
Conclusion. Interstitial HDR brachytherapy for tongue cancer is a feasible technique. Adequate training is needed to acquire the needed skills to implement this technique in a general hospital.

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Intraoperative high dose rate brachytherapy (HDR-IORT) in locally advanced rectal cancer

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The risk of developing local recurrence after treatment of a primary rectal cancer increases with increased stage. Treatment of early-stage rectal cancer with preoperative radiotherapy (RT) and total mesorectal excision result in a local recurrence of 6% for Stage II and 15% for Stage III tumors. Survival after recurrence depends on stage and treatment and this result in a 3-year survival rate varying from 0% to 60%. Intraoperative radiotherapy is used to increase dose of Radiation and decrease local recurrence. Two techniques can be used: intraoperative electron beam radiotherapy (IOERT) and high-dose-rate brachytherapy (HDR-IORT). The flexible template in HDR-IORT can treat all surfaces. Centers use a 1-cm-thick applicator as a template and often prescribed a dose of 15 Gy at the surface or 10 Gy at 0.5 cm depth from the surface of the applicator. The HDR-IORT procedure consists of placing a flat flexible applicator of a centimeter of thickness, in whose interior there are several placed catheters supporting parallelism and separation of 1 cm. The applicator is placed in the tumor bed marked with clips, for what is necessary the collaboration of the surgeons. Later, a 2D planning is realized and patient is translated to the unit of brachytherapy near the operating room. Our series includes 7 patients treated between 2010 and 2012. Doses: 10 Gy to 1 cm of the catheters. Results: pathologic stages: pT0-mic: 2 p, pT3: 3p, pT4: 2p; distance to the surgical margin: 0–4 mm. Failures: local 0p, metastases 2p. Situation at the last review: 1p death with disease, 1p life with disease, 5p life without disease. In the video we can see a case report of a patient with locally advanced primary rectal cancer treated with HDR-IORT after preoperative chemoradiotherapy.

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LDR automatic prostate brachitherapy

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Introduction. The prostate cancer is the most frequent tumor in men; the brachytherapy is an alternative treatment highly effective and tolerable.
Abstract. In May 2011 we have launched LDR brachytherapy technique in our unit, indicated for low risk prostate cancer patients. Personal: Radiation oncologist, physicist, urologist, anesthetist, nurse, auxiliary nursing and radiation technical. Patient settled in lithotomy position with spinal anesthesia and urinary catheter.
Procedure. – Positione the endorectal ultrasound image, visualize the prostate in transverse and longitudinal cuts, do the volumetric reconstruction and draw structures (prostate, urethra and rectum). – Perform preplanning dosimetry and check PTV and OAR dose. – Insert transperineal needles and verify the dosimetric parameters. – Place “seed-selectron”, release the seeds automatically and remove the needles. – Make cystoscopy to sure that no seeds in bladder and test that there isn’t hematuria.

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Training in brachytherapy. High performance centre. Hospital virtual valdecilla

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Purpose. Brachytherapy allows delivering higher doses of radiation to more-specific areas of the body, compared with the conventional form of radiation therapy (external beam radiation). This allows being very effective in tumor control and not damaging